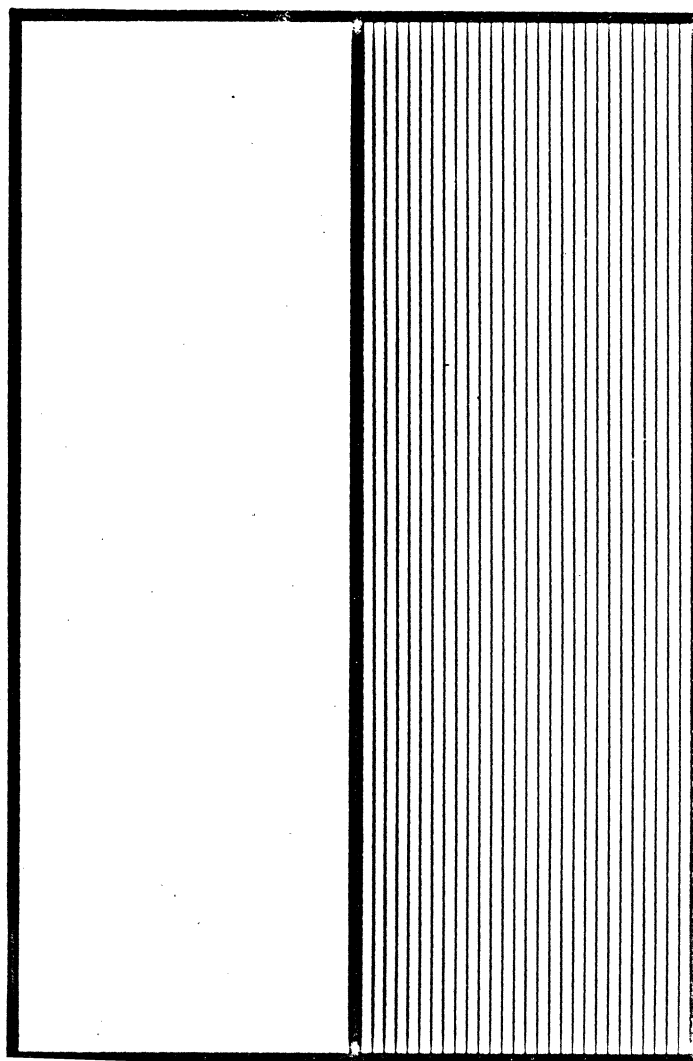


UNIVAC

9400 SYSTEM

PROGRAM DESCRIPTION DRAWING



CUSTOMER
ENGINEERING

SPERRY RAND



UNIVAC

DRAWING NO. 4091711

REVISION

CUSTOMER ENGINEERING
PRODUCT DIAGNOSTIC SOFTWARE

9400 - 5024/8424 or 8425 Disc Features Test
D2080

SIGNATURE

TITLE

DATE

APPROVAL

APPROVAL

APPROVAL

APPROVAL

REVISION STATISTICS RECORD

4091711

DWG REV	MSTR REV	RELEASE DATE	DESIGNER NAME	EIR NUMBER	FCO NUMBER
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-	Release to 9400 Test Library

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1. INTRODUCTION

1.1 Purpose. This document describes a 9400 Maintenance test program for the 5024/8424 of 25 Subsystem.

1.2 Major Objectives. The objective of this test program is to perform a test of the 5024/8424 or 25 Subsystem. Test organization and operator options are intended to satisfy the needs of Design, Quality Control and Field Engineering personnel in checkout, acceptance and maintenance activities.

1.3 Equipment Configurations. All equipment configurations must be connected to a Selector I-O channel of the 9400 Processor. This test will operate the following equipment configuration:

- Disc File Control - Type 5024
- Disc Drive - Type 8424 or 25
- Disc Pack Assembly - Type F12 14-01

1.4 Associated Software. This program has DSKH included as an integral part of the program. This is the standard disc handler routine used by all Disc Maintenance test programs. It is the interface between the program and MCR, which performs program load, parameterization, execution, deletion, I-O handling, and message handling.

1.5 Reference Documents

DRAWING

DESCRIPTION

S70040

UNIVAC 9400 Processor, Type 3019-00 and -01.
UNIVAC 9400 Dual I-O Selector Channel, Type
XXXX-00 and -01.

P10076

Disc File Control, Type 5024.
8424 or 25

4091622

Maintenance Control Routine.

4091623

Parameter and Message Routines.

4091670

5024/8414 Disc Program Handler.

2. FUNCTIONAL DESCRIPTION

2.1 General Organization - This MAR is designed to check the operation of two features available for the 5024/01 Disc Subsystem, the File Scan Feature and the Record Overflow Feature. In addition, all continue scan commands are tested to insure correct operation when both these features are present.

2.2 Subtest Descriptions - Each of the following subtests is described by stating its objective and the method used to attain it.

2.2.1 Subtest 1 (Group Test) -

Objective - This subtest enables the operator to internally select Subtests 2 through 4 simply by entering Subtest 1.

Method - The program places bits into the parameter location which tells DSKH which tests to enter.

2.2.2 Subtest 2 (File Scan Test) -

Objective - This subtest is designed to check the operation of the File Scan Feature on the disc subsystem.

Method - The program writes several records on the cylinder specified by parameter insert and then performs the search key-data commands. Each search command is performed so as to generate equal, high, and low results. When the expected search condition is obtained, the following record is read and checked to assure that the search condition was set by the correct record. The status, sense bytes, and disc data, as applicable, are checked.

2.2.3 Subtest 3 (Record Overflow Test) -

Objective - This subtest is designed to check the operation of the Record Overflow Feature on the disc subsystem.

Method - The MAR attempts to write a four-segment record on Heads 01, 02, 03, and 04. However, head 02 of the specified cylinder is marked defective, and Head 02 of an alternate cylinder, as specified by parameter insert, is used instead. The program then performs all commands involving the Record Overflow Feature, checking status, sense bytes and disc data, as applicable, to assure proper functioning.

2.2.4 Subtest 4 (Continue Scan Test) -

Objective - This subtest is designed to check the execution of all Continuous Scan Commands when the disc subsystem has the File Scan and the Record Overflow features incorporated.

Method - All Continue Scan Commands are performed so as to create all possible conditions of the File Scan and Record Overflow features. The sense bytes, and disc data, as applicable, are checked to assure that all functions are being properly performed.

3. OPERATING PROCEDURES

The Disc Handler (DSKH) functions as a standard interface between the Disc Test Program and the MCR. Standard operating procedures for these MAR's are described in the DSKH document, Drawing Number 4091.

3.1 Initialization - The procedures used by this program are common to most other disc MAR's and are described in the DSKH document. The Load Name for this program is *D2080*.

3.2 Test Program Parameters - Standard parameter information applicable to this MAR is described in the DSKH document. In addition, program option V16 is used to select the alternate cylinder number for Subtest 3. If an alternate cylinder is not specified, CA₁₆ is the alternate cylinder. The alternate track is fixed at 02₁₆. V16 is entered in the form

V16/cc/hh

Where cc = cylinder designator (in decimal)
hh = head designator (02 for Subtest 3)

3.3 Test Program Messages - All test entry and exit messages and a standard I/O error message are described in the DSKH document. Data handling by this MAR includes error detection and error message generation. The following messages apply to Subtests 2 through 4.

Message: WRONG TRACK, READ: 00CC00hh EXPECTED: 00CC00hh EE0000XXXX

Definition: READ: 00CC00hh = current track address (cylinder & head)
EXPECTED: 00CC00hh = expected track address
EE 0000XXXX = error routine address

Cause: This message is caused by a track address error. It occurs if the final disc position is not as expected after a command chain has been executed.

Message: WRONG RECORD READ AFTER COMMAND DD EE 0000XXXX
DATA READ E...E
EXPECTED F...F

Definition: XXXX = the command which was being tested.
DD = the data read by the test chain.
E...E = the data read by the test chain.
F...F = the data expected to be read.

Cause: This message is caused by the functional error indicated in the message.

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4. SUPPLEMENTARY DATA

4.1 Supplementary Software Information - Each subtest of this MAR is entered separately by DSKII and stands alone. It can be extracted from the rest of the MAR and either eliminated or assembled by itself with DSKII.

For further information see Section 4 of the DSKII document, Drawing Number 4091702 and other sources listed in Paragraph 1.5 of this document.

4.2 Supplementary Hardware Information - For additional hardware information consult Section 4 of the DSKII document and the appropriate sources listed in Paragraph 1.5 of this document.